

Lehigh Valley Railroad Derailment Superfund Site
Le Roy, New York
Genesee, Monroe and Livingston Counties
Updated February 2, 2012

The Lehigh Valley Derailment Superfund site is the location of a December 6, 1970 train derailment, where approximately one ton of cyanide crystals and approximately 30,000 to 35,000 gallons of trichloroethene (TCE) spilled on to the railroad right-of-way. The spilled TCE contaminated soil and the ground water beneath the site. The “plume” of contaminated ground water extends approximately four miles to the east and southeast of the site.

The cyanide crystals were removed from the ground surface immediately after the derailment by the responsible party, the Lehigh Valley Railroad; the TCE was not recovered. In response to concerns about odors from the TCE in the basement of the nearby Knickerbocker Hotel, the Lehigh Valley Railroad used water to attempt to flush the TCE out of the area. Drinking water wells in the immediate area reportedly became contaminated within 30 days of the spill. The railroad, working with county and state health officials, provided drinking water to residents with contaminated wells and later installed filtration systems on the affected wells. In 1990 the New York Department of Conservation identified additional contaminated wells in the area while investigating the matter. Between April 1991 and May 1993, in response to NYSDEC’s request, the U.S. Environmental Protection Agency used its short-term cleanup authorities under the Superfund program to install granulated activated carbon treatment systems on 35 private wells affected by the contamination.

Under its own state Superfund program, the NYSDEC conducted an investigation and assessed options for cleaning up the site. This investigation and study, called a Remedial Investigation/Feasibility Study (RI/FS), was completed in 1997. It showed that concentrations of TCE up to 58,000 parts per billion (ppb) in ground water within the area closest to the spill site. TCE was also found in soil at concentrations up to 550 parts per million (ppm).

In March 1997, the NYSDEC issued a Record of Decision (ROD) for the site, which laid out the detailed cleanup plan. The chosen method of cleanup called for soil vapor extraction, which is a process in which excavated soil is treated by inducing a controlled flow of air through the soil to vaporize volatile organic compounds like TCE. The state’s ROD also called for vapor extraction of the bedrock. In addition, the ROD called for the construction of a water line to connect all homes with impacted wells to a public water supply and the monitoring of ground water.

At the NYSDEC’s request, the EPA placed the site on its National Priorities List of federal Superfund sites in 1999. Shortly thereafter, the EPA reviewed and affirmed the cleanup approach selected by the state, with the addition of provisions requiring further study of the ground water. In 2003, the water line funded by both EPA and NYSDEC was completed.

In September 2006, the EPA signed an Administrative Settlement Agreement and Order on Consent with Lehigh Valley Railroad requiring them to undertake the investigation and engineering work needed to treat the soil and determine the extent of the ground water contamination. In addition, the railroad agreed to investigate whether vapors from the ground water were impacting any homes, a condition called vapor intrusion, and to install systems to vent the vapors at homes if vapor intrusion is found.

Beginning in 2008, the Lehigh Valley Railroad began extensive sampling of ground water. Based on this and subsequent sampling, the railroad installed 75 ground water monitoring wells to supplement the 59 wells that had been previously installed under NYSDEC oversight. This work has allowed the EPA to determine the exact location and extent of contamination in the ground water. The ground water monitoring wells are sampled quarterly with the most recent sampling having been conducted in December 2011. The next ground water sampling is scheduled for March 2012.

Since 2008, 32 properties have been sampled for vapor intrusion and eleven of the properties were found to need vapor intrusion mitigation systems. The mitigation systems have been installed and have been effective in controlling the vapors. EPA will continue to monitor homes which overlay the groundwater plume area for vapor intrusion issues.

The Lehigh Valley Railroad has submitted some technical engineering plans related to the cleanup of the bedrock and soil. These technical reports are currently under review by EPA.

Soil and rock material from the drilling of the ground water monitoring wells was placed in drums and stored at the site in a fenced-in area. Based upon data previously collected from the drilling activities, this material is believed to be non-hazardous. The EPA has directed the railroad company to do sampling to evaluate the material in some of the drums so they can be removed and disposed of off-site. This work is expected to be completed and the drums removed by the end of February 2012.